II. RESPONSE TO OFFICE ACTION

A. Status of the Claims

In response to the Election of Species Requirement set forth in the Action, Applicants affirm the election of the Group I invention (*i.e.*, claims 1-13), without traverse. Claims 14-37 have been canceled without prejudice or disclaimer as being drawn to a non-elected invention. Claims 10 and 13 have also been canceled, without prejudice or disclaimer. Claims 1-5 and 11 have been amended in the Amendment set forth herein. New claims 38-58, which are drawn to the Group I invention, have been added. Support for the amended claims and the new claims can be generally found throughout the specification, such as in the claims as originally filed. Therefore, claims 1-9, 11-12 and 38-58 are currently pending in the case.

B. Objection to the Specification

The disclosure is objected to because on page 8, line 7 of the disclosure, reference is made to figures B and C in Table 1 on page 10. However, Table 1 on page 10 is said to not have figures B and C. Applicants, in the Amendment set forth herein, have amended the paragraph that begins on page 8, line 3 of the disclosure to omit reference to figures B and C in Table 1. Therefore, this objection is moot.

C. Rejection Under 35 U.S.C. §112, Second Paragraph

1. Claim 10

Claim 10 has been rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In particular, "Tween" is said to be a manufacturer trademark for a chemical compound, and as the manufacturer might develop new "Tweens," it is suggested that a specific "Tween" be chosen. Applicants, in an effort to expedite prosecution of the remaining

claims, have herein canceled claim 10 without prejudice or disclaimer. Cancellation of claim 10 is in no way an admission that claim 10 is indefinite under 35 U.S.C. §112, second paragraph. Further, it is understood that claims broader than claim 10 continue to cover compositions comprising tweens. Therefore, it is respectfully submitted that this rejection is moot.

2. Claim 13

Claim 13 has been rejected under 35 U.S.C. §112, second paragraph, as being indefinite. In particular, the Examiner asserts that the metes and bounds of a solubilizing agent that is a β-hydroxylated compound are unclear. Applicants, in an effort to expedite prosecution of the remaining claims, have herein canceled claim 13 without prejudice or disclaimer. Cancellation of claim 13 is in no way an admission that claim 13 is indefinite under 35 U.S.C. §112, second paragraph. Further, it is understood that claims broader than claim 13 continue to cover compositions comprising β-hydroxylated compounds. Therefore, it is respectfully submitted that this rejection is moot.

D. Rejection Under 35 U.S.C. §102(b)

Claims 1, 6-8 and 12 have been rejected under 35 U.S.C. §102(b) as being anticipated by Grollier *et al.* Grollier *et al.* is said to disclose a cosmetic emulsion comprising aloe-emodin and a lecithin, which is said to meet with requirements of claim 1. Applicants respectfully traverse.

Without conceding that the claims as originally written were anticipated by Grollier *et al.*, Applicants direct the Examiner's attention to current claim 1, which recites "[a] composition comprising emodin, or a derivative thereof, and at least one of dimyristol phosphatidyl choline or dimyristol phosphatidyl glycerol, the composition further defined as having a weight/weight ratio of dimyristol phosphatidyl choline, dimyristol phosphatidyl glycerol, or a combination of the two to emodin or a derivative thereof of about 5:1 to about 30:1." Grollier *et al.* fails to anticipate

claim 1 (and claims that depend from claim 1) because it does not disclose any composition comprising an emodin and either dimyristol phosphatidyl choline or dimyristol phosphatidyl glycerol. There is no disclosure in Grollier *et al.* pertaining to dimyristol phosphatidyl choline or dimyristol phosphatidyl glycerol. Therefore, Grollier *et al.* fails to anticipate claims 1 or any claim that depends from claim 1.

As to the new claims, Applicants point out that Grollier *et al.* fails to anticipate either of the two new independent claims (*i.e.*, claims 38 or 49), or claims that depend from these two independent claims. Claim 38 pertains to compositions that include dimyristol phosphatidyl choline or dimyristol phosphatidyl glycerol, neither of which is disclosed in Grollier *et al.* Thus, Grollier *et al.* fails to anticipate claim 38 or claims that depend from claim 38.

New claim 49 pertains to compositions comprising emodin or a derivative thereof, at least one of dimyristol phosphatidyl choline or dimyristol phosphatidyl glycerol, and a solublizing agent, the composition further defined as having a weight/weight ratio of dimyristol phosphatidyl choline, dimyristol phosphatidyl glycerol, or a combination of the two to emodin or a derivative thereof of about 5:1 to about 30:1. Again, because Grollier *et al.* does not pertain to compositions comprising dimyristol phosphatidyl choline or dimyristol phosphatidyl glycerol, there can be no anticipation of claim 49, or claims that depend from claim 49.

Therefore, for the reasons set forth above, it is respectfully submitted that the anticipation rejection under 35 U.S.C. §102(b) based on Grollier *et al.* should be withdrawn.

E. Rejection Under 35 U.S.C. §103(a)

1. Rejection based on Grollier *et al.* in view of Alving *et al.*

Claims 2, 3, 9, and 11 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Grolllier *et al.* in view of Alving *et al.* (U.S. Patent 5,820,880). Grollier *et al.* is said to not

expressly teach the addition of the non-ionic detergent Tween 20 to a lipid composition comprising dimyristoyl phosphatidylcholine and dimyristoyl phosphatidyl glycerol.

Alving *et al.* is said to disclose liposomal formulations with a non-ionic detergent that functions as a stabilizing agent, and non-ionic detergents for inclusion in the liposomal preparations that include Tween 20 in the range of about 0.5-4 mole %. Alving *et al.* is said to also disclose that dimyristoyl phosphatidylcholine and dimyristoyl phosphatidyl glycerol are components of the liposomal formulation. According to the Examiner, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the emodin-lipid composition of Grollier *et al.* by using the suggested lipids dimyristoyl phosphatidylcholine and dimyristoyl phosphatidy glycerol with Tween 20 as a stabilizing agent of Alving *et al.* to produce the instant invention. Applicants traverse.

In order to establish a *prima facie* case of obviousness, three basic criteria must be met: (1) the prior art reference (or references when combined) must teach or suggest all the claim limitations; (2) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; (3) there must be a reasonable expectation of success. *Manual of Patent Examining Procedure* § 2142. See also *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q. 2d 1438 (Fed Cir. 1991) (emphasizing that the teaching or suggestion to make the claimed combination and the reasonable expectation of success must be both found in the prior art, and not based on applicant's disclosure). It is important to note that all three elements must be shown to establish a *prima facie* case of obviousness.

As to claims 2, 3, 9, and 11, there is no *prima facie* case of obviousness because the combination of Grollier *et al.* with Alving *et al.* fails to teach of suggest each limitation of the

claimed invention. In particular, this combination of references fails to teach or suggest "[a] composition comprising emodin, or a derivative thereof, and at least one of dimyristol phosphatidyl choline or dimyristol phosphatidyl glycerol, the composition further defined as having a weight/weight ratio of dimyristol phosphatidyl choline, dimyristol phosphatidyl glycerol, or a combination of the two to emodin or a derivative thereof of about 5:1 to about 30:1." Neither Grollier *et al.* nor Alving *et al.* teaches or suggests any composition having a weight/weight ratio of dimyristol phosphatidyl choline, dimyristol phosphatidyl glycerol, or a combination of the two to emodin or a derivative thereof of about 5:1 to about 30:1. Thus, because the combination of references fails to teach or suggest each limitation of the claimed invention, there can be no *prima facie* case of obviousness.

There is additionally no *prima facie* case of obviousness as to the cited claims (or the new claims) because the Examiner has failed to set forth any suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. It is the Examiner's responsibility to show that some objective teaching or suggestion in the applied prior art, or knowledge generally available [in the art] would have led one of ordinary skill in the art to combine the references to arrive at the claimed invention. *Pro-Mold & Tool Co. v. Great Lakes Plastics, Int*l, 745 F.3d 1568, 1573, 37 USPQ2d 1626, 1629 (Fed. Cir. 1996). No such teaching or suggestion in the art has been cited by the Examiner. Further, these references are in different fields of art. Grollier *et al.* pertains to preparation of cosmetic compositions, whereas Alving *et al.* pertains to pharmaceutical formulations of vaccines. In the absence of this teaching or suggestion, there can be no *prima facie* case of obviousness.

As to new claims 38 and 49, and claims that depend from these new claims, the cited prior art additionally does not render the inventions set forth in these claims obvious because each of these claims requires the presence of a solubilizing agent in the claimed compositions. Applicants note that original claim 6, which was directed to solubilizing agents, was not considered by the Examiner to be obvious in view of the combination of Grollier *et al.* and Alving *et al.* Therefore, independent claims 38 and 49 (and claims depending from these independent claims) are free of this rejection.

Therefore, for each of the above reasons, this rejection should be withdrawn.

2. Rejection based on Grollier *et al.* in view of Boch *et al.*

Claims 2-5 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Grollier *et al.* in view of Boch *et al.* (U.S. Patent App. 2002/0156062). In the Action, the Examiner admits that Grollier *et al.* does not expressly teach a lipid composition comprising dimyristoyl phosphatidylcholine and dimyristoyl phosphatidyl glycerol and emodin in a weight/weight/ratio of lipid to emodin of about 5:1 to 30:1 or about 5:2. Boch *et al.* is said to disclose compositions comprising emodin that can comprise dimyristoyl phosphatidylcholine and dimyristoyl phosphatidyl glycerol, such that the ratio of emodin to dimyristoyl phosphatidylcholine and dimyristoyl phosphatidyl glycerol may be from about 7:1 and higher as well as lower ratios that do not exhibit adverse effects. Thus, the Examiner indicates that it would have been obvious to one of ordinary skill in the time of the invention to modify the teachings of Grollier *et al.* by using the lipids dimyristoyl phosphatidylcholine and dimyristoyl phosphatidyl glycerol in the range of about 7:1 (lipid:emodin) and higher as taught by Boch *et al.* to produce the claimed invention. Applicants traverse.

There is no *prima facie* case of obviousness because the Examiner has failed to set forth that the cited combination of references teaches or suggest a "composition further defined as having a weight/weight ratio of dimyristol phosphatidyl choline, dimyristol phosphatidyl glycerol, or a combination of the two to emodin or a derivative thereof of about 5:1 to about 30:1."

Regarding the ratio of lipid:hydrophobic agent, Boch *et al.* teaches that the ratio "depends on the hydrophobic agent being used." Para. [0067]. Thereafter, Both *et al.* sets forth no specific information regarding the ratio of lipid:emodin that would be required to form microaggregates. Considering the vast array of hydrophobic agents taught by Boch *et al.*, one of ordinary skill in the art would be provided with no guidance by the information set forth in para [0067] of Boch *et al.* regarding a weight/weight ratio of dimyristol phosphatidyl choline, dimyristol phosphatidyl glycerol, or a combination of the two to emodin or a derivative thereof of about 5:1 to about 30:1.

In any event, it is unclear whether the ratios set forth in paragraph [0067] are weight/weight ratios, weight/volume ratios, volume/volume ratios, and so forth. Further, there is no indication in Boch *et al.* or Grollier *et al.* that a ratio of about 5:1 to about 30:1 would provide any reasonable expectation of success in maintaining microaggregate formation, as required by Boch *et al.* See para [0067].

There is also no *prima facie* case of obviousness as to the cited claims (or the new claims) because the Examiner has failed to set forth any suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. It is the Examiner's responsibility to show that some objective teaching or suggestion in the applied prior art, or knowledge generally

available [in the art] would have led one of ordinary skill in the art to combine the references to arrive at the claimed invention. *Pro-Mold & Tool Co. v. Great Lakes Plastics, Intl.*, 745 F.3d 1568, 1573, 37 USPQ2d 1626, 1629 (Fed. Cir. 1996). No such teaching or suggestion in the art has been cited by the Examiner. Furthermore, there is no motivation to combine reference teachings to lead to the claimed invention because Boch's only disclosure pertaining to emodin is among a vast list of hydrophobic agents set forth in its specification. In particular, the disclosure of emodin in a long list of alleged hydrophobic agents in the specification is insufficient to provide one of ordinary skill in the art with motivation to lead to the claimed compositions. In essence, Boch's disclosure is generic. It simply provides not motivation to provide for the claimed compositions of the instant invention.

Further, Boch *et al.* and Grollier *et al.* are in different fields of art. Grollier *et al.* pertains to preparation of cosmetic compositions (see col. 1, lines 6-12), whereas Boch *et al.* pertains to compositions that may be used to deliver hydrophobic drugs (see para [0001]). g15

As noted by the Examiner, Grollier *et al.* makes no mention of dimyristoyl phosphatidylcholine and dimyristoyl phosphatidyl glycerol. No basis has been set forth by the Examiner as to why one of ordinary skill in the art would have turned to Boch *et al.* to identify information pertaining to dimyristoyl phosphatidylcholine and dimyristoyl phosphatidyl glycerol.

As to new claims 38 and 49, and claims that depend from these new claims, the cited prior art additionally does not render the inventions set forth in the claims obvious because each of these claims requires the presence of a solubilizing agent in the claimed compositions. Applicants note that original claim 6, which was directed to solubilizing agents, was not rendered

obvious by Grollier *et al.* and Boch *et al.* by the Examiner. Therefore, independent claims 38 and 49 (and claims depending from these independent claims) are free of this rejection.

Further, the Examiner has failed to set forth any basis for combining a solubilizing agent with any composition comprising dimyristoyl phosphatidylcholine and dimyristoyl phosphatidyl. The Examiner has failed to set forth any teaching or suggestion in Boch *et al.* regarding solubilizing agents. Nor has the Examiner cited any information in Grollier *et al.* pertaining to any teaching or suggestion for combining any solubilizing agent with dimyristoyl phosphatidylcholine and dimyristoyl phosphatidyl, or any reasonable expectation of success to do so.

Therefore, in view of the above, the Examiner has failed to establish a *prima facie* case of obviousness under 35 U.S.C. §103(a). Therefore, it is submitted that this rejection should be withdrawn.

F. New Claims 38-58 are Allowable

In addition to the arguments set forth above, Applicants point that that new claims 38-58 are additionally allowable. In particularly, new independent claim 38 (and claims that depend from it) are drawn to compositions comprising emodin or a derivative thereof, at least one of dimyristol phosphatidyl choline or dimyristol phosphatidyl glycerol, and a solubilizing agent. This claim, and claims that depend from it, are free of the cited prior art. In particular, claim 38 is analogous to original claim 1, except that it includes the limitations of original claims 2, 3, and 6. Independent claim 38 (and claims that depend from it) should not be anticipated by Grollier *et al.* because the Examiner did not consider original claims 2 and 3 to be anticipated by Grollier *et al.* Further, claim 38 includes the limitation of original claim 6, a solubilizing agent. Original

claim 6 was not subject to any of the two obviousness rejections. Therefore, claim 38 should be free of each of the prior art rejections set forth by the Examiner.

Similarly, claim 49 is additionally allowable for the same reasons as claim 38, but for the additional reason that it sets forth a particular range of ratios of lipid to emodin. Thus, claim 49 is analogous to original claim 1 amended to include the limitations of claims 2, 3, and 6 as above, as well as claim 4. Claim 4 was not considered by the Examiner to be anticipated by Grollier *et al.* Thus, claim 49 (and dependent claims) should be free of each of the prior art rejections set forth by the Examiner.

G. Conclusion

In light of the foregoing, Applicants respectfully submit that all claims are in condition for allowance, and an early indication to that effect is earnestly solicited.

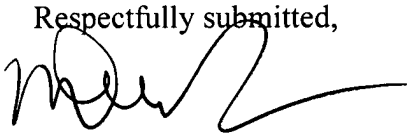
III. REQUEST FOR EXTENSION OF TIME

Pursuant to 37 C.F.R. § 1.136(a), Applicants petition for an extension of time of two months to and including February 7, 2006, in which to respond to the Office Action dated September 7, 2005.

Pursuant to 37 C.F.R. § 1.17, a check in the appropriate amount is enclosed, which is the process fee for a two-month extension of time. If the check is inadvertently omitted, or should any additional fees under 37 C.F.R. §§ 1.16 to 1.21 be required for any reason relating to the enclosed materials, or should an overpayment be included herein, the Commissioner is authorized to deduct or credit said fees from or to Fulbright & Jaworski Deposit Account No. 50-1212/UTSC:776US.

The Examiner is invited to contact the undersigned attorney at (512) 536-5639 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,



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